Exhibit 300: Capital Asset Summary

Part I: Summary Information And Justification (All Capital Assets)

Section A: Overview & Summary Information

Date Investment First Submitted: 2009-06-30
Date of Last Change to Activities: 2012-08-23
Investment Auto Submission Date: 2012-02-27
Date of Last Investment Detail Update: 2012-02-27
Date of Last Exhibit 300A Update: 2012-08-23
Date of Last Revision: 2012-08-23

Agency: 021 - Department of Transportation **Bureau:** 12 - Federal Aviation Administration

Investment Part Code: 01

Investment Category: 00 - Agency Investments

1. Name of this Investment: FAAXX169: Wide Area Augmentation System (WAAS)

2. Unique Investment Identifier (UII): 021-089571105

Section B: Investment Detail

1. **Provide a brief summary of the investment, including a brief description of the related benefit to the mission delivery and management support areas, and the primary beneficiary(ies) of the investment. Include an explanation of any dependencies between this investment and other investments.**

WAAS is an aviation system providing precise satellite navigation and landing guidance to equipped aircraft in any weather. WAAS uses a network of precisely located ground reference stations across the U.S., Canada & Mexico to monitor GPS satellite signals. This information is processed and sent to user receivers via leased navigation transponders on Geostationary Earth Orbiting (GEO) satellites. The WAAS-provided messages improve the accuracy, availability, and safety of GPS-derived position information. WAAS results in safety and capacity improvements in the National Airspace System (NAS) and will reduce FAA operations costs by enabling the removal of approximately 40% of ground-based navigation infrastructure. WAAS is in a mixed life cycle. DME continues in conjunction with O&M post Initial Operating Capability (IOC) through four segments: IOC in 2003, Full WAAS LPV (Localizer Performance with Vertical Guidance) Performance (FLP) 2004-2008, WAAS Phase III LPV-200 in 2009-2013, WAAS Phase IV Dual Frequency Operations through the rest of the life cycle 2014-2028. The FLP performance segment will expand service to 99% availability to the continental U.S. and 75% of Alaska. In Phase III, the FAA developed a contract for FY 2009 - 2011 to perform DME and O&M life cycle support focus on transition from contractor-based support to FAA-led support. Phase III efforts will include acquisition of additional leased service for a WAAS Navigation Payload hosted on a Geostationary satellite (GEO), including development, testing and integration. Phase IV, Dual Frequency will provide

better operational capability during periods of severe solar storm activity, additional protection against interference to the GPS, and enable FAA to decommission numerous ground-based navigation aids. The dual frequency upgrade will leverage improvements the DoD GPS modernization program. WAAS was approved by the JRC to rebaseline on May 20, 2009, and provided FAA management with detailed insight into the program's financial and technical plan for Phase III (2009-2013). WAAS currently has no dependencies on any other investments.

2. **How does this investment close in part or in whole any identified performance gap in support of the mission delivery and management support areas? Include an assessment of the program impact if this investment isn't fully funded.**

WAAS supports the DOT Strategic Plan goal for increased aviation safety. The FAA is required by law to establish, operate, and maintain navigation capability for all phases of flight. Many of the aircraft flying in the national airspace system (NAS) lack seamless navigation capability and many runways in the NAS lack navigation aids that deliver stable vertical guidance in all weather conditions. The FAA provides vertically guided navigation to less than 18 percent of all public use runway ends in the NAS. FAA cannot afford to provide horizontal and vertical navigation for precision approach operations for all runway ends using ground-based navigation equipment such as Instrument Landing System (ILS). The FAA determined that the safest, most efficient and cost-effective means of providing this service is via satellite-based navigation capability. WAAS addresses the following performance gaps: Lack of precise navigation capabilities that can handle continued air traffic growth; Lack of stable vertical guidance in all weather conditions; Aging navigation systems that are expensive to maintain. WAAS increases the accuracy, continuity, availability, and integrity of Global Positioning System (GPS) data, with concomitant improvements to air traffic system capacity and safety. WAAS also provides aviation service far exceeding that of currently fielded navigational aids. Lack of full funding will prevent or delay the implementation of WAAS capabilities and future improvements such as improved capability during periods of severe solar storm activity and additional protection against interference with GPS, and the ability to decommission numerous ground-based navigation aids.

3. **Provide a list of this investment's accomplishments in the prior year (PY), including projects or useful components/project segments completed, new functionality added, or operational efficiency achieved.**

The WAAS program had the following accomplishments for FY2011: - Completed the integration of the Gap Filler GEO (AMR) into the operational WAAS system (Release 2A) on November 10, 2010. - Published first WAAS LP Procedure on Jan 13, 2011. - Restored Intelsat geostationary satellite (CRW) to operational use in April 2011. - Relocated NOCC WAAS O&M equipment at the new NOCC facility. - Cutover of Release 2B (Comm Upgrade and Flex Power mitigation) completed June 2011. - Obtained CFO approval for WFO extension and GEO 5/6/7 procurement. - Over 500 aircraft equipped with WAAS receivers. - Added one or more procedures for EMS operations flying WAAS. - Approved 3 STCs for commercial transport aircraft. - Added 500 LP/LPV approach procedures to runways, including 300 at Non-ILS runway ends, thereby improving the safety of those runway approaches. This improvement supports the DOT and FAA goals of increased safety, capacity and mobility.

4. **Provide a list of planned accomplishments for current year (CY) and budget year (BY).**

The major activities and benefits expected to occur in FY12 are summarized in the following planned milestones: - GIII Receiver Development - Release 3A/3B Deployment (Delayed due to CRW failure) - Release 4 (L5 Development Phase I) Development Activities - Publish 500 WAAS Approaches - 5th GEO Contract Award - Safety Computer Contract Award The major activities and benefits expected to occur in FY13 are summarized in the following planned milestones: - GIII Receiver Acceptance/Delivery - Release 5 (L5 Development Phase II) development - Publish 500 WAAS Approaches - 5th GEO Contract preliminary design review (PDR) - 5th GEO critical design review (CDR) - Dual Frequency Contract Award LOE and recurring costs for FY12 activities not covered in 300B include: Satellite leases, Program Management, Operations Costs, Technology Evolution, and NAS implementation.

5. **Provide the date of the Charter establishing the required Integrated Program Team (IPT) for this investment. An IPT must always include, but is not limited to: a qualified fully-dedicated IT program manager, a contract specialist, an information technology specialist, a security specialist and a business process owner before OMB will approve this program investment budget. IT Program Manager, Business Process Owner and Contract Specialist must be Government Employees.**

2009-05-20

Section C: Summary of Funding (Budget Authority for Capital Assets)

1.

Table I.C.1 Summary of Funding

	PY-1 & Prior	PY 2011	CY 2012	BY 2013
Planning Costs:	$27.6	$4.9	$6.1	$6.3
DME (Excluding Planning) Costs:	$1,513.7	$89.9	$88.9	$89.7
DME (Including Planning) Govt. FTEs:	$57.1	$3.0	$3.1	$3.2
Sub-Total DME (Including Govt. FTE):	$1,598.4	$97.8	$98.1	$99.2
O & M Costs:	$84.5	$20.0	$19.0	$19.6
O & M Govt. FTEs:	$30.0	$6.1	$6.3	$6.4
Sub-Total O & M Costs (Including Govt. FTE):	$114.5	$26.1	$25.3	$26.0
Total Cost (Including Govt. FTE):	$1,712.9	$123.9	$123.4	$125.2
Total Govt. FTE costs:	$87.1	$9.1	$9.4	$9.6
# of FTE rep by costs:	631	60	60	60
Total change from prior year final President's Budget ($)		$0.0	$-30.5	
Total change from prior year final President's Budget (%)		0.00%	-19.82%	

2. If the funding levels have changed from the FY 2012 President's Budget request for PY or CY, briefly explain those changes:

Funding was reduced in FY12 ($30.5M) and FY13 ($10.1M) but added back into the out years for no net change to the total program. The FY12 funding was reduced due to FY12 appropriation adjustment and was transferred to outyear requirements.

Section D: Acquisition/Contract Strategy (All Capital Assets)

Table I.D.1 Contracts and Acquisition Strategy

Contract Type	EVM Required	Contracting Agency ID	Procurement Instrument Identifier (PIID)	Indefinite Delivery Vehicle (IDV) Reference ID	IDV Agency ID	Solicitation ID	Ultimate Contract Value ($M)	Type	PBSA ?	Effective Date	Actual or Expected End Date
Awarded		DTFAWA-10-C-00007									
Awarded		DTFAWA-08-C-00137									
Awarded		DTFAAC-09-D-00002									
Awarded		DTFAWA-03-C-00059									
Awarded		DTFAWA-09-C-00081									
Awarded		DTFAWA-08-C-00103									
Awarded		DTFAWA-09-C-00045									
Awarded		DTFAWA-12-C-00049									

2. If earned value is not required or will not be a contract requirement for any of the contracts or task orders above, explain why:
For Contracts identified above that do not have EVM requirements (Contract Performance Report (CPR)), basic cost measurement and control are in place by contractors and reported to the FAA on a monthly basis to monitor the contract costs. Some contracts have implemented performance dashboards to control current and projected cost, schedule, and technical performance progress. In addition to basic contract cost control measurements and performance dashboards, the WAAS Program has full program wide EVMS to track all WAAS Contracts and respective performances. This EVMS data is reported monthly to internal organizations at the FAA.

Exhibit 300B: Performance Measurement Report

Section A: General Information

Date of Last Change to Activities: 2012-08-23

Section B: Project Execution Data

Table II.B.1 Projects

Project ID	Project Name	Project Description	Project Start Date	Project Completion Date	Project Lifecycle Cost ($M)
1	Surveys and Approach Procedures (FY11) - APB MILESTONE	Airport obstruction surveys are required to support instrument flight procedure development. The obstruction surveys provide positioning information of obstacles around the airport environs so procedure developers design procedures with adequate physical separation to ensure safety of flight. Five hundred WAAS procedures are being developed annually to achieve DOT and FAA safety goals.			
2	Release 2 (Communications Architecture Upgrade and GEO Integration)	As a result of the CRW-Galexy XV failure, Rel 2 was split into 2A and 2B activities: 2A is planned to introduce the GAP Filler GEO and require WAAS Problem Report (WPR) to support Gap Filler operation as soon as possible, and 2B is meant to capture all other Rel 2 work efforts. After the CRW-Galexy XV satelite came back online in Dec 2010, efforts re-focused on the			

Table II.B.1 Projects

Project ID	Project Name	Project Description	Project Start Date	Project Completion Date	Project Lifecycle Cost ($M)
		deployment of Rel 2B, including the re-insertion of the CRM satellite and telecommunication upgrades.			
3	Release 3 Development and Deployment (Iono-Robustness) - APB MILESTONE	Release 3 Development and Deployment activities consist of two releases each, 3A and 3B. 3A addresses Ionospheric upgrades and algorithm test and evaluation. Release 3B consists of GUST upgrades and associated software development.			
4	GEO 5/6/7 Development - APB MILESTONE	The FAA plans to procure service leases on GEO Satellite Payloads (GSPs) and their associated GUSTs as part of the long-term GEO sustainment strategy for a three-GEO satellite constellation per the WAAS Requirements Document. Based on the GEO Satellite Market Survey report of April 2010, the market environment may offer multiple satellites of opportunities scheduled to be launched between FY12 and FY16. Contract award is expected this fiscal year. This project represents work carried through the 5th GEO Performance Design Review (PDR), planned to complete in September 2013.			
5	Surveys and Approach Procedures (FY12) - APB MILESTONE	Airport obstruction surveys are required to support instrument flight procedure development. The obstruction surveys provide positioning information of obstacles around the airport environs so procedure developers design procedures with adequate physical			

Table II.B.1 Projects

Project ID	Project Name	Project Description	Project Start Date	Project Completion Date	Project Lifecycle Cost ($M)
		separation to ensure safety of flight. Five hundred WAAS procedures are being developed annually to achieve DOT and FAA safety goals.			
6	Safety Computer Development	The WAAS Safety Computer (SC) is a critical component of the WAAS Program in that the SC executes application software certified in accordance with RTCA/DO-178B, Software Considerations in Airborne Systems and Equipment Certification. The Safety Computer is a new development activity with contract award expected this fiscal year.			
7	G-III Receiver Acceptance and Delivery - APB MILESTONE	The Third Generation WAAS Reference Receiver (G-III) is currently in development and is a form and function technology update to the existing Second Generation (G-II) WRS receiver. The new receiver will include the current processing capacity of the existing GII WAAS receiver and also provide processing capability for the new L1C, L2C and L5 signals.			
8	Release 4 WAAS Support - APB MILESTONE	WAAS Release 4 will consist of WAAS application software generation and maintenance improvements. The first improvement is the consolidation of multiple application software builds into a single unified and streamlined build process. The second improvement stems from clean-up of application source code and associated development and build tools.			
9	Dual-Frequency Development	Phase 4, Dual Frequency			

Table II.B.1 Projects

Project ID	Project Name	Project Description	Project Start Date	Project Completion Date	Project Lifecycle Cost ($M)
		Operations will consist of planning and acquisition activities. Acquisition documentation will be developed this year.			
10	Communications	Communications support will be provided for WFO Release 3A and 3B activities, transition support for Second Level Engineering, Tijuana communications node relocation, and communication engineering activities for Dual Frequency contract.			
11	Technology Evolution	Support WAAS Integrity Performance Panel threat model assessments, ionospheric evaluation, and safety analyses. Support ongoing GNSS evolutionary architecture studies in cooperation with GPS Modernization efforts. A major focus for will be to begin to the software development for the L5 algorithms and associated test.			

Activity Summary

Roll-up of Information Provided in Lowest Level Child Activities

Project ID	Name	Total Cost of Project Activities ($M)	End Point Schedule Variance (in days)	End Point Schedule Variance (%)	Cost Variance ($M)	Cost Variance (%)	Total Planned Cost ($M)	Count of Activities
1	Surveys and Approach Procedures (FY11) - APB MILESTONE							
2	Release 2 (Communications Architecture Upgrade and GEO Integration)							

Activity Summary

Roll-up of Information Provided in Lowest Level Child Activities

Project ID	Name	Total Cost of Project Activities ($M)	End Point Schedule Variance (in days)	End Point Schedule Variance (%)	Cost Variance ($M)	Cost Variance (%)	Total Planned Cost ($M)	Count of Activities
3	Release 3 Development and Deployment (Iono-Robustness) - APB MILESTONE							
4	GEO 5/6/7 Development - APB MILESTONE							
5	Surveys and Approach Procedures (FY12) - APB MILESTONE							
6	Safety Computer Development							
7	G-III Receiver Acceptance and Delivery - APB MILESTONE							
8	Release 4 WAAS Support - APB MILESTONE							
9	Dual-Frequency Development							
10	Communications							
11	Technology Evolution							

Key Deliverables

Project Name	Activity Name	Description	Planned Completion Date	Projected Completion Date	Actual Completion Date	Duration (in days)	Schedule Variance (in days)	Schedule Variance (%)
7	G-III Critical Design Review (CDR) - APB MILESTONE	Prepare documents for Critical Design Review, including HRS, SRS, SDD, G-III configuration baseline and HALT Test plan.	2011-08-31	2011-08-31	2011-08-31	548	0	0.00%

Key Deliverables								
Project Name	Activity Name	Description	Planned Completion Date	Projected Completion Date	Actual Completion Date	Duration (in days)	Schedule Variance (in days)	Schedule Variance (%)
3	Iono-Robustness - Release 3A Development	Release 3A Development activites consist of test and evaluation of Kriging Algorithm.	2011-08-31	2011-08-31	2011-08-31	152	0	0.00%
1	Procedures Flight Inspection and Support (FY11) - APB MILESTONE	Procedures flight inspection consists of flight inspection by Aviation Systems Standards.	2011-09-30	2011-08-25	2011-08-25	91	36	39.56%
2	Communications Architecture Upgrade - Release 2B Deployment - APB MILESTONE	Re-insertion of CRW satellite and implementation of telecommunications upgrades.	2011-09-30	2011-09-14	2011-09-14	241	16	6.64%
3	Iono-Robustness - Release 3A Deployment - APB MILESTONE	Implementation of Kriging Algorithm.	2012-01-31	2012-01-31	2011-12-31	153	31	20.26%
7	G-III Prototype	Receive and evaluate receiver prototype.	2012-02-29	2012-02-29	2012-02-29	181	0	0.00%
6	Safety Computer - Contract Award	Development of specification, SOW, IGCE, and Business case for new safety computer.	2012-05-31	2012-06-08	2012-06-08	577	-8	-1.39%
3	GUST Upgrades - Release 3B Development	Release 3 Development activites consist of modifications to the GEO Uplink Subsystem Type -1 (GUST).	2012-05-31	2012-05-31	2012-05-21	121	10	8.26%
4	GEO 5/6/7 - Contract Award - APB MILESTONE	Development and approval of all acquistion documents required for contract award, i.e. IGCE, SOW, Model Contract, Business Case, etc.	2012-09-30	2012-09-30		913	0	0.00%

Key Deliverables								
Project Name	Activity Name	Description	Planned Completion Date	Projected Completion Date	Actual Completion Date	Duration (in days)	Schedule Variance (in days)	Schedule Variance (%)
5	Procedures Flight Inspection and Support (FY12) - APB MILESTONE	Procedures flight inspection consists of flight inspection by Aviation Systems Standards.	2012-09-30	2012-09-30		91	0	0.00%
6	Safety Computer - Preliminary Design Review (PDR)	Development and review of software and hardware development documentation.	2012-09-30	2012-09-30		91	0	0.00%
7	G-III Test Readiness Review (TRR)	Review of contractors software test cases and test procedures in preparation for formal testing.	2012-09-30	2012-09-30		213	0	0.00%
3	GUST Upgrades - Release 3B Deployment - APB MILESTONE	Implementation of GUST modifications.	2012-09-30	2012-09-30		122	0	0.00%
8	Build Merge/L5 Development Phase 1 - Release 4 Development	Release 4 Development activites consist of WAAS application software build merge, software and software tools clean-up.	2013-03-01	2013-03-01		365	0	0.00%

Section C: Operational Data

Table II.C.1 Performance Metrics

Metric Description	Unit of Measure	FEA Performance Measurement Category Mapping	Measurement Condition	Baseline	Target for PY	Actual for PY	Target for CY	Reporting Frequency
500 aircraft equipped with WAAS receivers. (This is really an APB milestone/activity rather than a metric of performance improvement once the aircraft have been equipped)	Number of Receivers	Process and Activities - Productivity	Over target	500.000000	500.000000	6500.000000	500.000000	Monthly
Availability of LPV over 100% of CONUS	Percentage	Customer Results - Service Coverage	Over target	0.990000	0.990000	0.990000	0.990000	Quarterly
Availability of LPV over 75% of Alaska	Percentage	Customer Results - Service Coverage	Over target	0.950000	0.950000	0.999000	0.950000	Quarterly
LPV/LP Procedures	Number of Procedures	Process and Activities - Productivity	Over target	500.000000	500.000000	519.000000	500.000000	Monthly
Obligate 90% of appropriated budget by fiscal year-end.	Percentage	Process and Activities - Financial	Over target	0.900000	0.900000	0.926000	0.900000	Monthly